

## ABSTRACT

There are provided a cartilage extract that can be effective even when taken in a small amount and has a clear mechanism of effective action and a method of producing the extract. Provided are an isolated proteoglycan which is derived from a water extract of cartilage of cartilaginous fish and whose main component has a molecular weight of 500 kDa or more; a composition containing the proteoglycan; a pharmaceutical composition containing the proteoglycan as an active ingredient; and a method of producing the proteoglycan, comprising the steps of pulverizing cartilaginous fish-derived cartilage into a pulverized product with an average particle diameter of 100  $\mu\text{m}$  or less, adding water to the pulverized product and extracting water-soluble components from it, separating an aqueous phase that contains the extracted water-soluble components, and adding an alcohol to the aqueous phase to produce a precipitate.